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HORTICULTURE SERIES 414

OHIO AGRICULTURAL R & D CENTER

JANUARY 1975

JUL 17 '75

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**1974**

# **Pickling Cucumber Cultivar Evaluation Trials**

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PICKLING CUCUMBER CULTIVAR EVALUATION  
TRIALS--1974

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The pickling cucumber cultivar evaluation trials were conducted at the OARDC Green Springs Crops Research Unit near Green Springs. Nineteen cultivars were evaluated in the replicated trial and thirteen lines were evaluated in a non-replicated observational trial.

Cultural Information

The soil is classed as a sandy loam. A broadcast application of 0-20-20 1,000 lb/A plus 450 lb/A of 33.5-0-0 was made and incorporated prior to planting. The plots were seeded on June 12 using a Stan-Hay seeder which seeded 3 to 4 seeds per ft. of row. Rows were 25 ft. long on 28-in. centers. Vegiben 2E at 2 lb/A was applied broadcast immediately after planting. One active hive of honey bees was placed in the plot area when the plants started to bloom. All other cultural practices during the growing season were according to standard recommendations. Weed control was excellent and no serious problems with insects or diseases developed during the season.

The plots were harvested by hand and the cucumbers were graded and sized using a commercial sizer. Fruits were classed into the following sizes and values placed on each size according to the following PCIC values:

<u>Size</u>	<u>\$/Ton</u>
1-less than 1 1/16 in.	120
2-1 1/16 to 1 1/2 in.	60
3-1 1/2 to 2 in.	40
4-2 to 2 1/4 in.	20

Time and labor limitations prevented harvesting each cultivar or line when it had reached optimum maturity for maximum returns (a few over-sized fruits in each plot). Therefore, the first harvest was made when a few over-sized fruits were present in the total plot area. This undoubtedly influenced the first-harvest yields and values, but it was felt that data from subsequent harvests would partially compensate for the lack of correct timing of the first harvest.

Growing conditions were good from planting on June 12 to the end of June with a total rainfall of 3.18 in. during this period. However, July was very dry (.54 in. total rainfall) and it was necessary to irrigate on July 18 and 29 with approximately 1.0 in. applied at each irrigation. Rainfall during the 14-day harvest period amounted to .25 inches.

Plant stand was generally good, but somewhat less than desirable for the following, FX 3907, FC 3908, Triple Cross, H-3534W, H-3559W, and H-3534D. Emergence ranged between about 40 and 60 percent for these lines. However, yields were not as severely affected by poor stand as might have been expected (Tables 1 & 2). Plant growth was very good and fruit set did not appear affected by the dry weather. However, fruit length and shape appeared affected by the low soil moisture because

several lines were rated as being too short or just acceptable when rated at the first harvest (Table 1). Some of these lines had been grown previously in trials and the fruit had good to excellent length and shape.

The author wishes to express his sincere appreciation to the seed companies and others who provided the seed for the trials. These included Joseph Harris Co., Inc., Rochester, N. Y.; Northrup, King & Co., Minneapolis, Minn.; Asgrow Seed Co., Kalamazoo, Mich.; Ferry-Morse Seed Co., Mountain View, Calif.; Petoseed Co., Inc., Saticoy, Calif.; Niagara Div. FMC Corp., El Macero, Calif.; Heinz U.S.A., Bowling Green, Ohio; V. W. Nuttall, Research Station, Harrow, Ontario, CANADA.

TABLE 1.--First Harvest Yield From Replicated Trial of Pickling Cucumber Cultivars  
Green Springs. 1974

Cultivar	Source	Lot No.	L/D Rating*	Tons/A					Culls
				Size = 1	2	3	4	Total	
FX - 3907	Ferry Morse	733983	3	.26	1.28	3.83	.57	5.94	.15
FX - 3908	Ferry Morse	733981	2	.20	1.25	1.89	.06	3.40	.06
38 ND	Harris	1715	3	.20	.69	5.65	3.38	9.92	.77
Ranger	Niagara	4837	4	.49	1.19	3.83	.47	5.98	.41
Triple Cross	Niagara	32468	4	.30	.51	.95	.14	1.90	.01
Salty	Petoseed	335-200	4	.35	2.12	3.28	.30	6.05	.09
H-3534W	Heinz	718	3	.11	.37	2.47	.67	3.62	.15
H-3559	Heinz	583	2	.11	.54	2.29	.25	3.19	.05
H-3534D	Heinz	729	3	.15	.59	3.64	1.79	6.17	.10
Pioneer	Ferry Morse	97230	4	.28	1.14	3.90	.97	6.29	.04
LaSalle	Ferry Morse	97200	4	.19	.83	3.48	1.25	5.73	.33
Score	Asgrow	57636	4	.41	1.10	2.26	1.03	4.80	.05
Carolina	Asgrow	57646	4	.54	1.40	2.87	.66	5.47	.10
Premier	Asgrow	87696	2	.20	1.06	4.19	.64	6.09	.20
Sumter	Asgrow	57159	4	.06	.22	.29	.00	.57	.08
Perfecto Verde	NK	37537-71100	3	.42	2.58	2.68	.14	5.82	.06
Earlipik	NK	37615-71300	2	.39	1.83	4.51	.70	7.43	.15
Pioneer	NK	37559	3	.23	1.16	5.03	.64	7.06	.22
Green Spear	NK	37536-70400	4	.45	1.59	3.35	1.02	6.41	.01

\* Observational rating of L/D ratio of harvested fruit = 1 - Very Short, 2 - Short, 3 - Acceptable, 4 - Good, 5 - Excellent.

TABLE 2.--Yields from Replicated Trial of Pickling Cucumber Cultivars.  
Green Springs, 1974.

Cultivar	Yield at 4 Harvest Dates-Tons/A				Total
	8-1	8-8	8-12	8-15	
FX - 3907	5.94	4.70	2.04	.83	13.51
FX - 3908	3.40	4.55	2.26	1.04	11.25
38 ND	9.92	5.16	1.96	1.12	18.16
Ranger	5.98	4.83	1.87	1.11	13.79
Triple Cross	1.90	3.93	1.80	1.07	8.70
Salty	6.05	5.97	2.59	1.54	16.15
H-3534W	3.62	2.83	1.74	.60	8.79
H-3559	3.19	4.76	1.78	1.41	11.14
H-3534D	6.17	3.58	1.50	.68	11.93
Pioneer (FM)	6.29	5.29	2.42	1.51	15.51
LaSalle	5.73	4.67	2.08	1.22	13.70
Score	4.80	2.38	3.43	.91	11.52
Carolina	5.47	5.46	2.32	1.62	14.87
Premier	6.09	4.67	1.96	1.06	13.78
Sumter	.57	2.41	1.90	1.44	6.32
Perfecto Verde	5.82	6.02	3.15	1.34	16.33
Earlipik	7.43	5.74	2.32	1.13	16.62
Pioneer (NK)	7.06	4.80	1.84	1.45	15.15
Green Spear	6.41	4.06	2.73	1.74	14.94

TABLE 3.--Values of Harvested Cucumbers from Replicated Trials  
Based on PCIC Values - Green Springs 1974

Cultivar	Value from 4 Harvest Dates - \$/A				Total
	8-1	8-8	8-12	8-15	
FX - 3907	273	241	141	77	732
FX - 3908	176	249	143	74	642
38 ND	359	285	160	88	892
Ranger	292	264	143	82	781
Triple Cross	107	201	137	97	542
Salty	306	315	181	130	932
H-3534W	148	138	89	56	431
H-3539W	143	239	127	104	613
H-3534D	234	190	116	52	592
Pioneer (FM)	278	286	168	115	847
LaSalle	236	245	158	106	745
Score	226	135	243	79	683
Carolina	276	303	183	131	893
Premier	268	253	137	87	745
Sumter	32	134	143	128	407
Perfecto Verde	316	319	205	104	944
Earlipik	351	331	190	90	962
Pioneer (NK)	312	264	153	109	838
Green Spear	304	232	206	125	867

TABLE 4.--First Harvest Yields from Observational Trial of Pickling Cucumbers  
Green Springs, 1974

Line	Source	Lot No.	Size =	Tons/A					Culls
				1	2	3	4	Total	
* XP - 1097	Asgrow	M 7310		.41	1.08	5.35	2.21	9.05	.60
H 71.21	Harrow, Ont.			.37	.52	3.63	1.23	5.75	1.38
PSX - 173	Petoseed			.26	1.35	2.09	.15	3.85	.22
4JC2	Harris	PW 10322		.37	.90	.97	1.50	3.74	.30
G541C2	Harris	PW 10362		.30	.97	5.38	2.24	8.89	.82
1159	Harris	PW 4082		.11	.75	5.12	1.76	7.74	.07
11C2	Harris	PW 10342		.11	.60	6.09	.93	7.73	.60
38C2	Harris	PW 10332		.22	.37	3.66	1.65	5.90	.45
4J85	Harris	6023		.37	1.94	3.96	1.23	7.50	.26
3885	Harris	6033		.22	1.08	8.45	3.03	12.78	.26
NCX 5002	Niagara	8336		.41	.45	3.78	4.19	8.83	.45
NCX 5003	Niagara	8095		.15	.67	5.76	1.50	8.08	.45
C5ND	Harris	1722		.52	.49	4.86	3.07	8.67	.11

\* No fruits harvested on this line on the general first harvest of the other plots on 8-2-74.  
These data from the 8-8-74 harvest.

TABLE 5.--Yield From Observational Trial of Pickling Cucumbers.  
Green Springs - 1974

Line	Yield at 4 Harvest Dates Tons/A				Total
	8-2	8-8	8-13	8-16	
XP-1097	0	9.05	4.48	.82	14.35
H 71.21	5.75	1.61	3.18	.30	10.84
PSX-173	3.85	4.15	3.82	.78	12.60
4JC2	3.74	3.52	3.81	1.24	12.31
G541C2	8.89	3.59	3.50	1.68	17.66
1159	7.74	3.03	4.08	.67	15.52
11C2	7.73	3.59	4.05	.93	16.30
38C2	5.90	2.21	3.37	.71	12.19
4J85	7.50	3.26	3.74	.63	15.13
3885	12.78	3.18	4.64	1.12	21.54
NCX 5002	8.83	4.30	4.15	1.30	18.58
NCX 5003	8.08	3.22	4.30	.55	16.15
C5ND	8.67	4.33	2.62	1.20	16.82

TABLE 6.--Value of Harvested Cucumbers From Observational Trial  
Of Pickling Cucumbers Based on PCIC Values - Green Springs, 1974

Line	Value from 4 Harvest Dates \$/A				Total
	8-2	8-8	8-13	8-16	
XP-1097	0	372	284	76	732
H 71.21	246	125	173	25	569
PSX-173	199	287	241	79	806
4JC2	168	200	219	105	692
G541C2	354	288	198	123	963
1159	298	214	231	58	801
11C2	312	256	223	82	873
38C2	229	150	166	70	615
4J85	345	215	209	72	841
3885	491	220	227	99	1,037
NCX-5002	311	249	218	126	904
NCX-5003	319	193	203	54	769
C5ND	348	297	155	87	887



TABLE 7.--Evaluation of Brine-Stock of Samples from Size 3 of Replicated Trial.  
Green Springs, 1974.

Cultivar	Carpel Separation %	% Bloat	Firmness (psi)*
FX-3907	46.53	2.97	16.00
FX-3908	55.17	8.62	14.15
38 ND	57.00	6.00	12.90
Ranger	62.64	8.79	15.80
Triple Cross	39.28	0.00	19.75
Salty	22.92	3.12	15.55
3534W-72-AR	40.91	3.03	15.85
3559W-71-AR	72.31	6.15	11.40
3534D-72-CA	33.71	2.25	16.45
Pioneer (FM)	13.86	0.99	15.20
LaSalle	25.55	1.11	17.10
Score	-----	-----	-----
Carolina	37.66	5.19	18.25
Premier	33.33	4.27	15.20
Sumter	-----	-----	-----
Perfecto Verde	30.55	1.85	13.75
Earlipik	24.00	3.00	13.95
Pioneer (NK)	27.56	9.45	15.35
Green Spear	58.06	3.22	16.70

\* Firmness measured with a Magness-Taylor Pressure tester, fitted with  
5/16 in. tip.

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